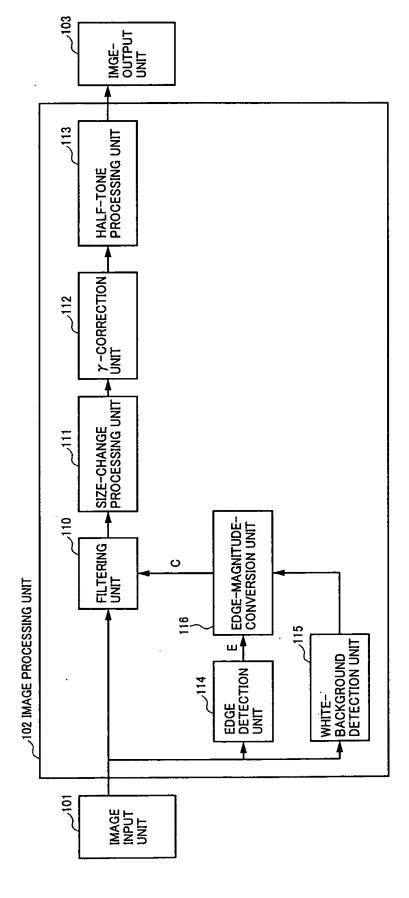
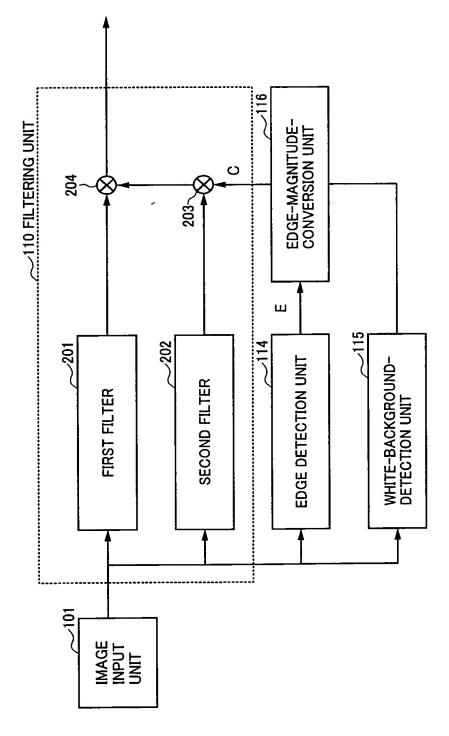
71





**FIG.**2

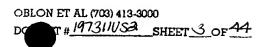


FIG. 3

-1	-3	-4	-3	-1
-3	3	4	3	-3
-4	4	32	4	-4
-3	3	4	3	-3
-1	-3	-4	-3	-1

× 1 / 16

FIG. 4

	-1	
-1	4	-1
	-1	

FIG.5

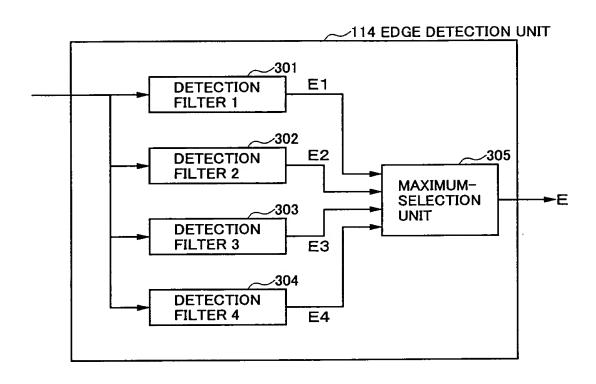


FIG. 6

					,
-1	-1	0	1	1	
-1	-1	0	1	1	
-1	-1	0	1	1	× 1 / 10
-1	-1	0	1	1	
-1	-1	0	1	1	

FIG. 7

-1	-1	-1	-1	-1	
-1	-1	-1	-1	-1	
0	0	0	0	0	× 1 /10
1	1	1	·1	1	
1	1	1	1	1	

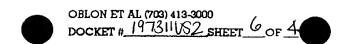


FIG. 8

-1	-1	-1	-1	0	
-1	-1	-1	0	1	
-1	-1	0	1	1	× 1 / 10
-1	0	1	1	1	
0	1	1	1	1	

FIG. 9

0	-1	-1	-1	-1	
1	0	-1	-1	-1	
1	1	0	-1	-1	× 1 /10
1	1	1	0	-1	
1	1	1	1	0	

FIG.10

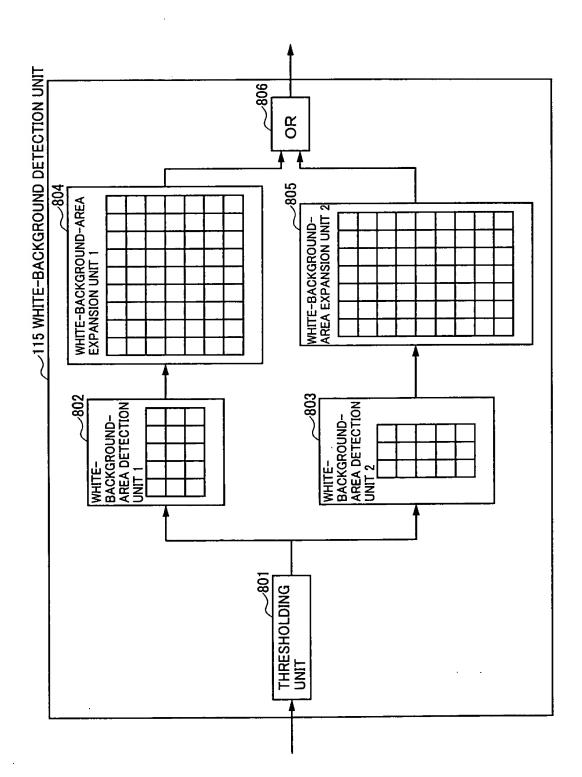


FIG. 1

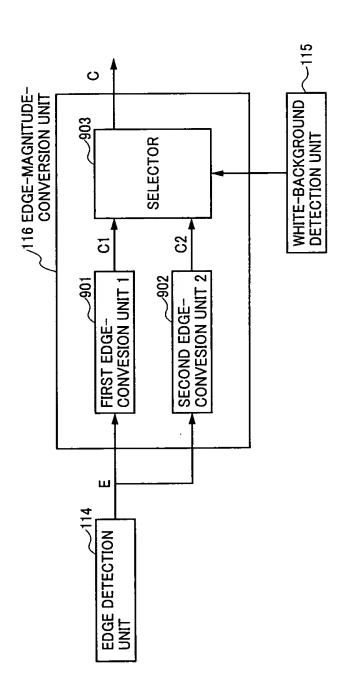


FIG. 12

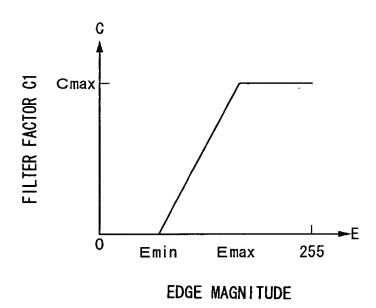


FIG. 13

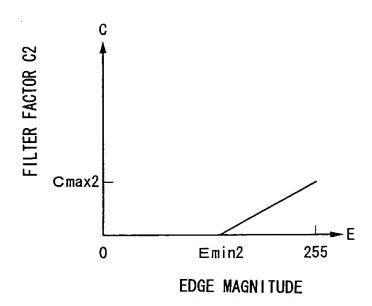
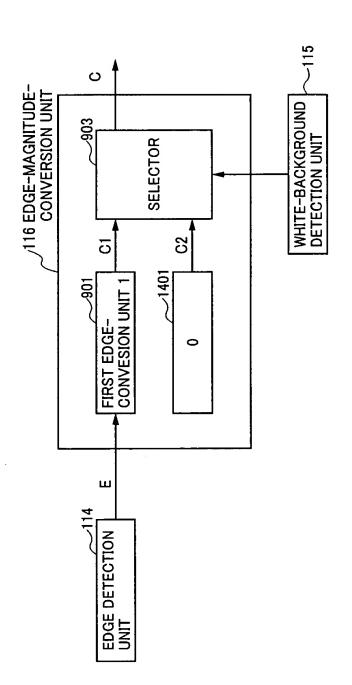


FIG. 14



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IMGE-OUTPUT UNIT 113 HALF-TONE PROCESSING UNIT ,112a r-correction Unit SIZE FACTOR AREA-INDICATION-SIGNAL SIZE-CHANGE-PROCESSING UNIT SIZE-CHANGE PROCESSING UNIT .110a FILTERING WHITE-BACKGROUND
DETECTION UNIT 102a IMAGE PROCESSING UNIT 턴 IMAGE INPUT UNIT

FIG.15

FIG.16

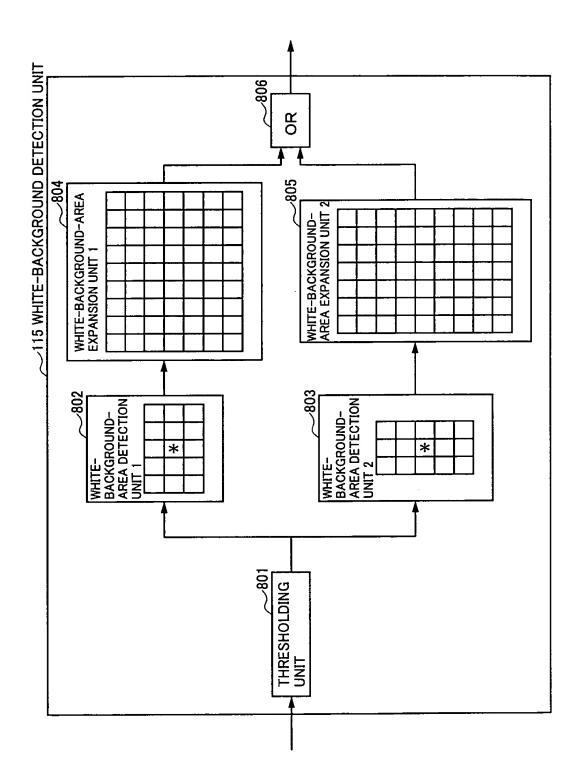
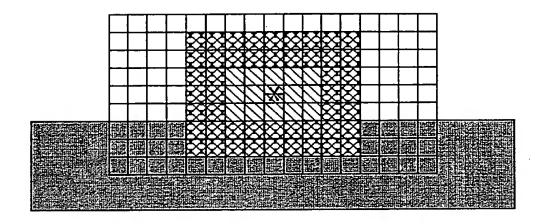


FIG. 17



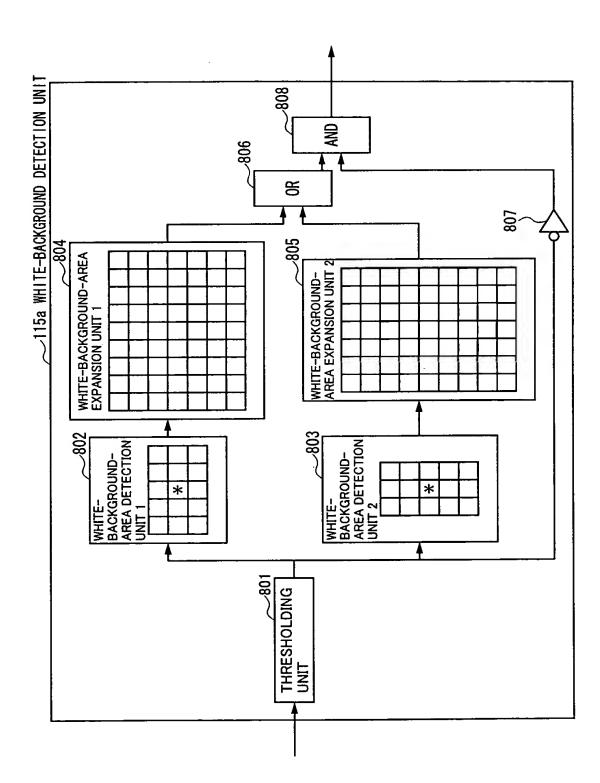
\* PIXEL OF INTEREST

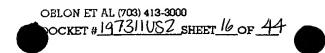
DETECTED AS WHITE-BACKGROUND PIXEL

**EXPANDED AREA** 

BLACK PIXEL

FIG. 18





**FIG.19** 

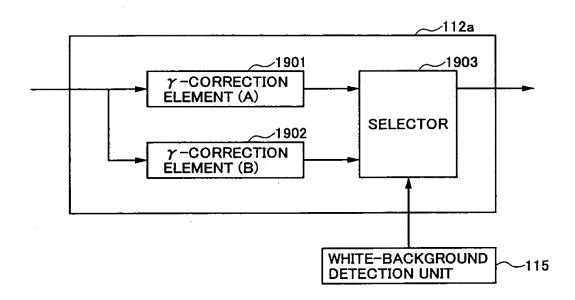


FIG. 20

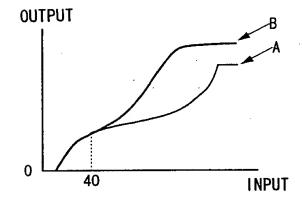
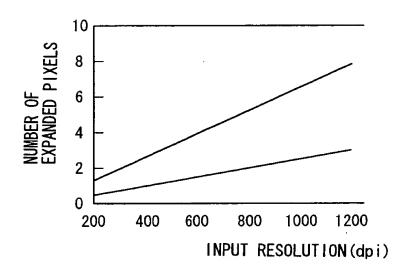


FIG. 21



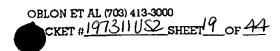
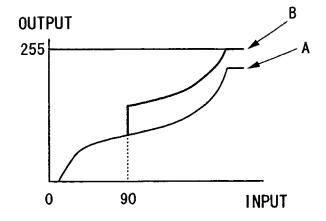
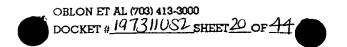


FIG. 22





**FIG.23** 

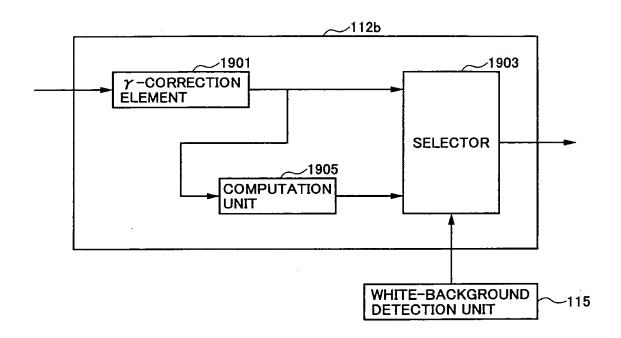


FIG. 24

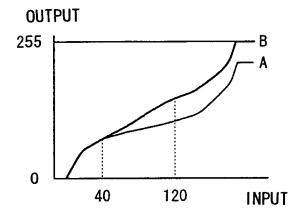
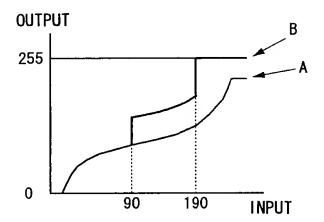


FIG. 25



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IMGE-OUTPUT UNIT 113 HALF-TONE PROCESSING UNIT ,112a 7 - CORRECTION UNIT AREA-INDICATION-SIGNAL SIZE-CHANGE-PROCESSING UNIT SIZE-CHANGE PROCESSING UNIT BACKGROUND DETECTION UNIT 102b IMAGE PROCESSING UNIT FILTERING UNIT <u></u> IMAGE INPUT UNIT

FIG.26

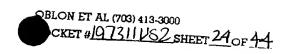


FIG. 27

-1	-3	-4	-3	-1	
-3	3	4	3	-3	
-4	4	32	4	-4	× 1 / 16
-3	3	4	3_	-3	
-1	-3	-4	-3	-1	

FIG. 28

1	1	1	
1	2	1	× 1 / 16
1	1	1	

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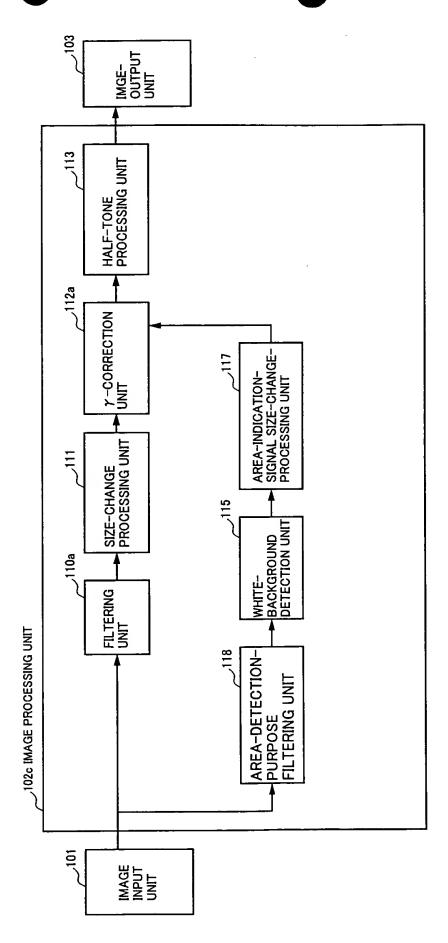


FIG 29

FIG. 30

0	0	-2	0	0
0	-2	-3	-2	0
-2	-3	44	-3	-2
0	-2	-3	-2	0
0	0	-2	0	0

× 1/16

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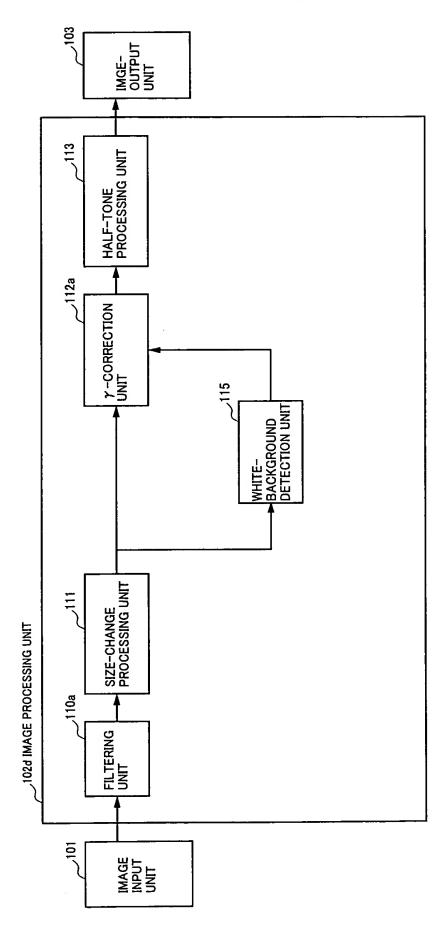
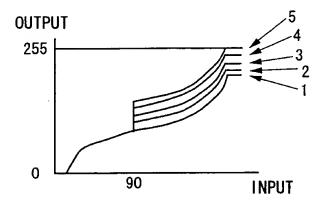


FIG 3

FIG. 32





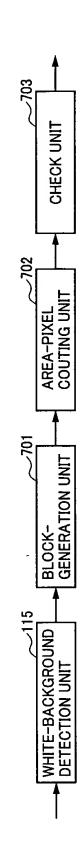


FIG. 34

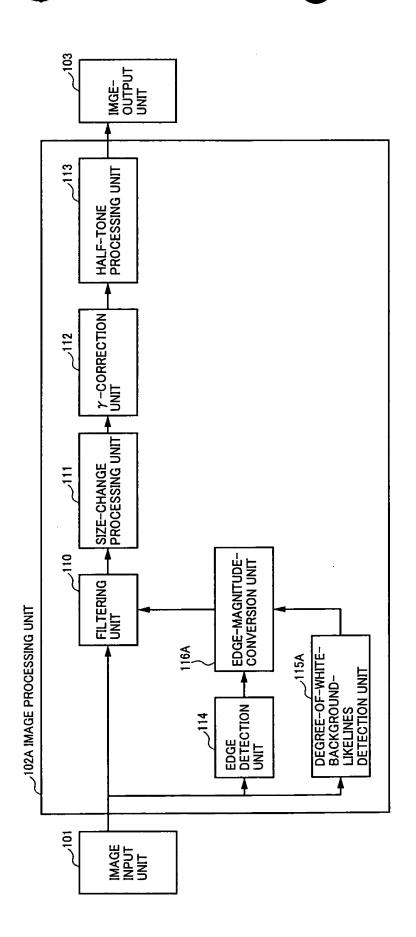


FIG.35

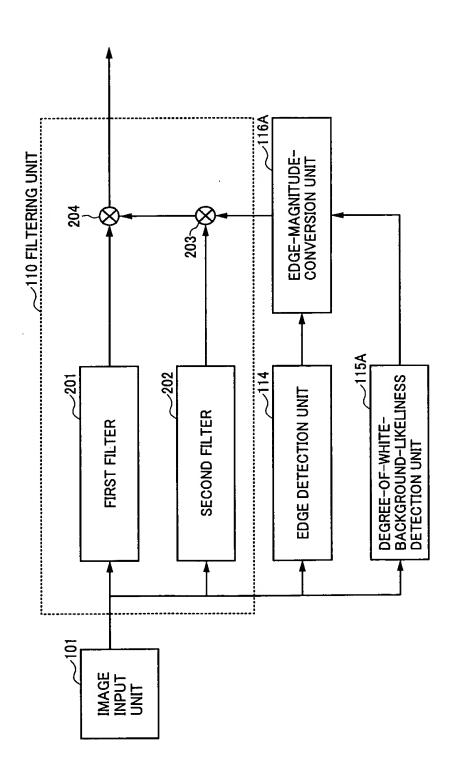
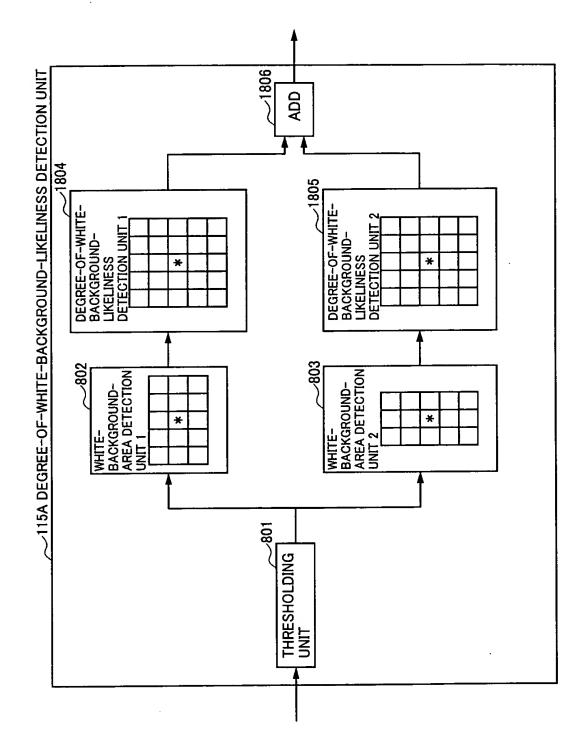
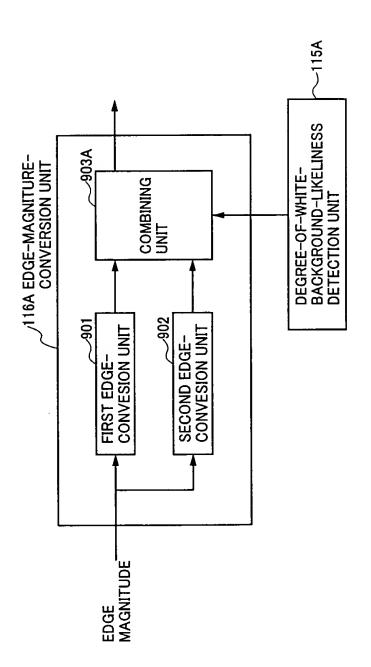


FIG.36







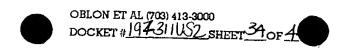
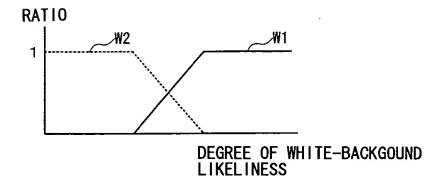


FIG. 38



IMGE-OUTPUT UNIT 113 HALF-TONE PROCESSING UNIT  $\gamma$  -CORRECTION UNIT SIZE-CHANGE PROCESSING UNIT DEGREE-OF-WHITE-BACKGROUND-LIKELINESS CONVERSION UNIT 110A EDGE-MAGNITUDE-CONVERSION UNIT FILTERING UNIT 102B IMAGE PROCESSING UNIT 1168 \_\_\_115A DEGREE-OF-WHITE-BACKGROUND-LIKELINESS DETECTION UNIT EDGE DETECTION UNIT 5 IMAGE INPUT UNIT

FIG 39

Ξ

FIG.40

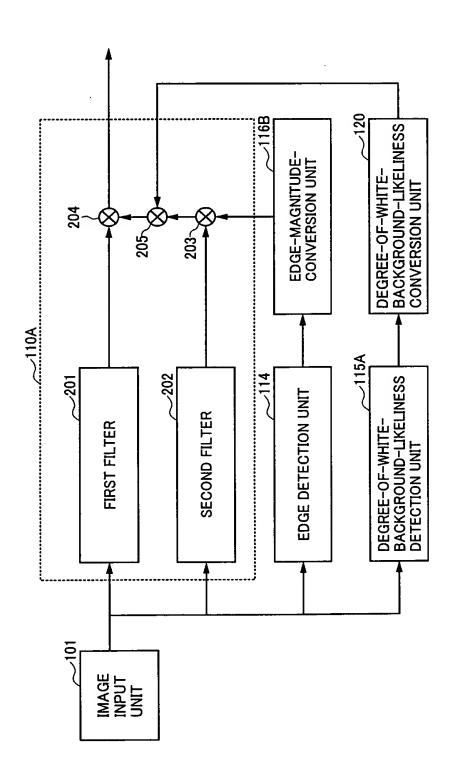


FIG. 41

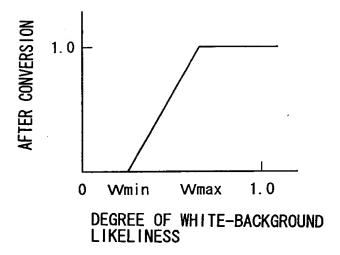
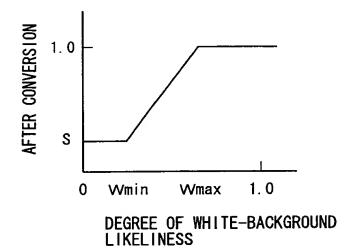


FIG. 42



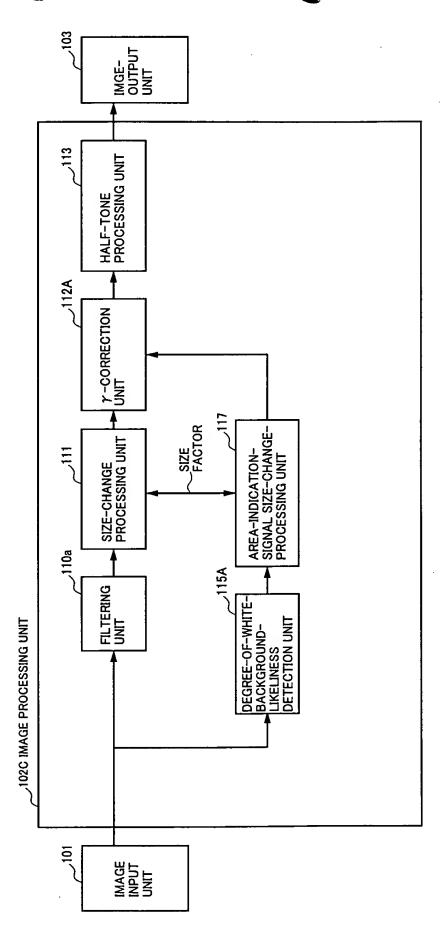
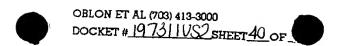


FIG 43



**FIG.44** 

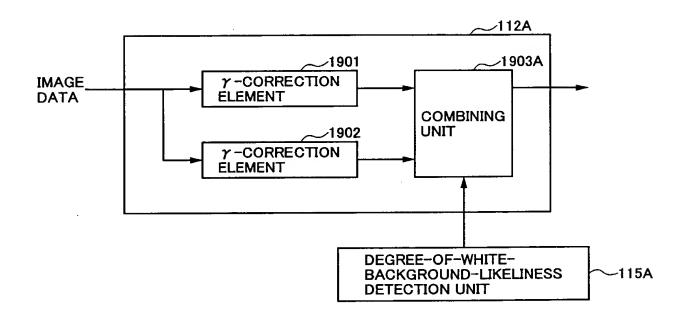
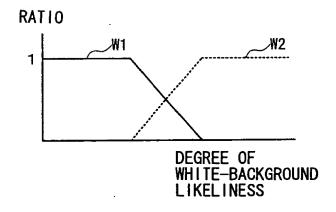


FIG. 45



**FIG.46** 

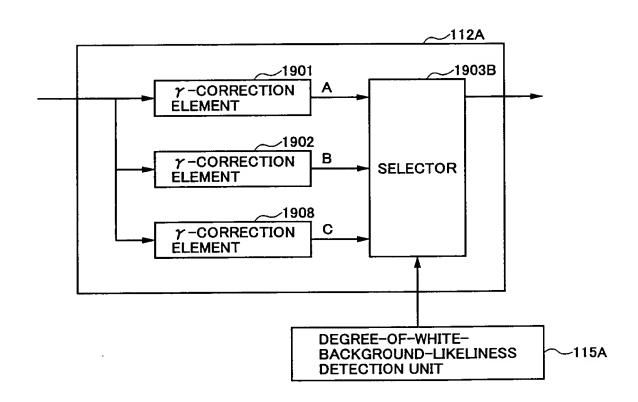
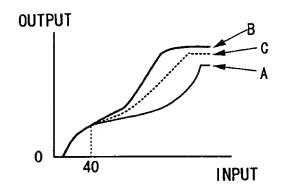


FIG. 47





## **FIG.48**

SELECTED  $\gamma$  -CORRECTION CHARACTERISTIC

γ-CORRECTION A

γ-CORRECTION C

γ-CORRECTION B

DEGREE OF WHITE-BACKGROUND LIKELINESS